

Integrated Behavioral Health and the IHS Electronic Health Record

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Objectives

- RPMS Behavioral Health Applications
- Integrated Behavioral Health in the Electronic Health Record
- Suicide Reporting in RPMS



Behavioral Health Practice in I/T/U

- Many types of BH programs
 - Hospital or clinic-based mental health and social work programs
 - Collaborative practices with primary care providers
 - Stand-alone tribal mental health and chemical dependency programs (Behavioral Health)
 - Residential treatment centers – adults and youth
- All with particular documentation and data needs and often with multiple funding sources



RPMS BH Applications

- BH Providers using RPMS have been able to document fully for over 10 years
- RPMS MH/SS application since early 1990's
- BHS v3.0 (roll/scroll) released 01/03
- BH GUI released 01/04 in IHS Patient Chart v1.4



Features of RPMS BH Applications

- Encounter documentation
 - Individual
 - Group
 - Administrative
- Suicide Reporting Form
- Treatment Plan and Case Management functions
- BH reports and export
- Security and Confidentiality based on “need to know”
 - Access to application limited to BH providers
 - Limited data passage to PCC
 - Clinical notes can be suppressed
- Graphical User Interface application (BH GUI)



BH GUI

- Component of IHS Patient Chart that supports direct provider entry of clinical data
- Developed with User-centered Design Process
 - Usability analysis of existing GUI prototype (Patient Chart)
 - Data Collection
 - On-site user interviews
 - Testing of user interface structures
- GUI standards and principles
 - Clear, comprehensible navigation structure
 - Screen supports task flow
 - Reduced visual complexity
 - Clear label organization and text presentation



SAAVEDRA,TAMARA L

F

203031

04/29/1982

23

GRENIER,DENISE in DEMO HOSPITAL

Select New
Patient

Main Menu

Patient Information

Visit

Case Status

Treatment Plan

Suicide Form

Date	POV	Axis V	Clinic	Activity	Visit Type	Contact Type	Provider
06/17/05	HOUSING		MED...	INFORMATI...	REGULA...	OUTPATIENT	GRENIER,DENI...
06/15/05	FAILED APP...		MED...	GROUP TR...	NO SHOW	OUTPATIENT	GRENIER,DENI...
06/15/05	SUICIDE (CO...		MEN...	FOLLOWUP...	REGULA...	OUTPATIENT	GRENIER,DENI...
06/10/05	PARTNER A...		MEN...	INDIVIDUAL...	REGULA...	OUTPATIENT	GRENIER,DENI...
06/08/05	PARTNER A...		MED...	GROUP TR...	REGULA...	OUTPATIENT	GRENIER,DENI...
06/06/05	HOUSING		MEN...	INFORMATI...	REGULA...	OUTPATIENT	GRENIER,DENI...
06/01/05	ALCOHOL AB...	60	MEN...	ASSESSME...	INTAKE	OUTPATIENT	GRENIER,DENI...
01/14/05	ALCOHOL AB...		MEN...	INDIVIDUAL...	REGULA...	OUTPATIENT	GRENIER,DENI...

Add

Edit

Delete

Print Encounter

Print Record

Cover

Face

Prob

Meds

Labs

POVs

Meas

Specials

Telnet

Hlth Sum

XRay

Women's Hlth

Appts

Imm/Ed

BH

BH Visit Documentation

DEMO HOSPITAL

SAAVEDRA,TAMARA L

F

04/29/1982

23

203031

Primary Provider	GRENIER,DENISE	Encounter Date	6/27/2005
Program	MENTAL HEALTH	Encounter Location	DEMO HOSPITAL
Clinic	MENTAL HEALTH	Appointment or Walk-In	APPOINTMENT
Type of Contact	OUTPATIENT	Community of Service	TUBA CITY
Arrival Time	1200		

POV

CC/SOAP

Rx Notes

Visit Admin

CD STG

Wellness

POV (DSM Diagnosis or Problem Code)

Axis I: Clinical Disorders; Other Conditions That May be a Focus of Clinical Attention

Axis II: Personality Disorders; Mental Retardation

Code	Narrative	
296.31	MAJOR DEPRESSIVE DISORDER, RECURRENT, MILD	
39	SUICIDE (IDEATION)	

Add
Edit
Delete

Axis III: General Medical Conditions

Axis IV: Major Psychosocial and Environmental Problems

Code	Narrative	
1	PRIMARY SUPPORT GROUP PROBLEMS	
9	OTHER PSYCHOSOCIAL AND ENVIRONMENTAL PROBLEMS	

Add
Delete

Axis V: Global Assessment of Functioning (GAF) Scale

55

Save

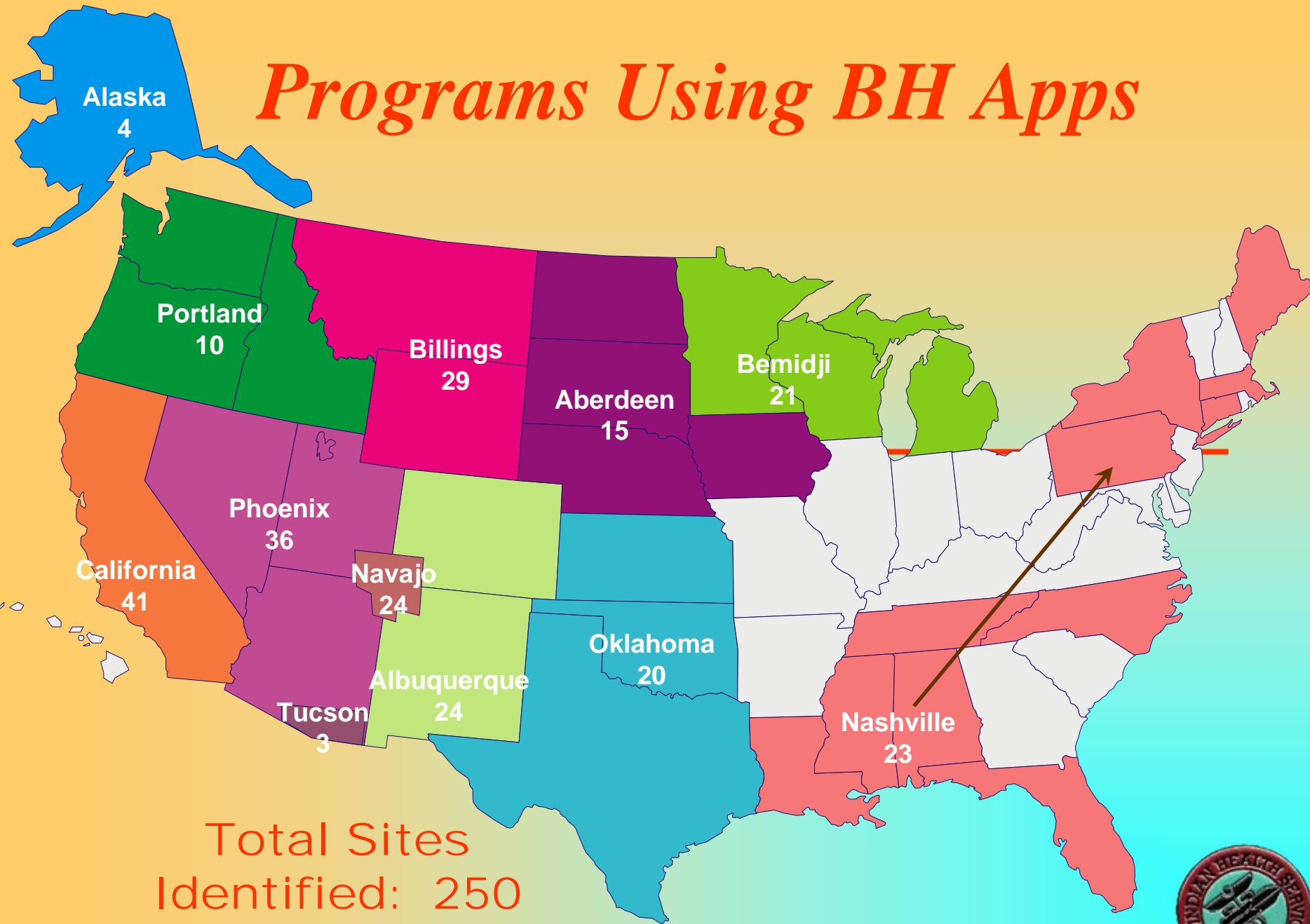
Close



Current RPMS BH Releases

- BHS v3.0 Patch 4 and BH GUI v1.5
 - IPV/DV Screening Exam Code & Reports
 - Enhanced Group functionality
 - New Activity and Problem codes
 - Revision of DSM-IV and ICD-9 codes table
 - Suicide Reporting Form modifications
 - Release anticipated early July

Programs Using BH Apps

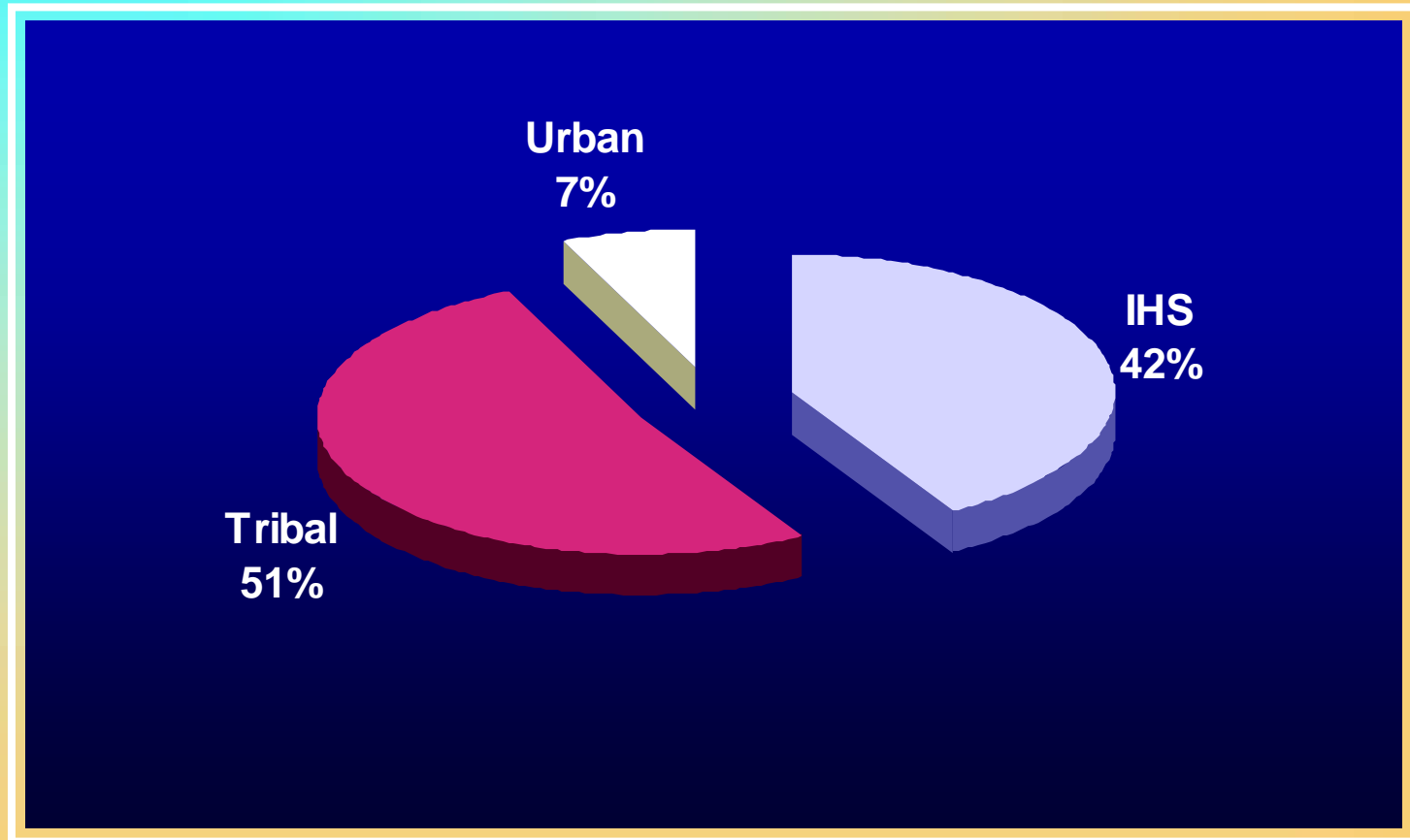


Total Sites
Identified: 250





BH Application Sites



More than half of programs using RPMS BH applications are non-Federal sites



Integrated Behavioral Health

- IBH is the long-term software solution for BH documentation and data collection
- Integrate care, integrate data
 - Encounter documentation
 - Testing instruments and outcome measures
 - Treatment planning
 - Access to RPMS clinical applications



Funding of IBH Development

- Stevens Bill - Federal legislation directing development of information systems to improve BH services and outcomes
- Funding is administered by the IHS Division of Behavioral Health
 - RPMS BH application development
 - BH data collection, aggregation and reporting (IHPES)



IBH Requirements from SME

- Scheduling and Sensitive Patient Tracking (PIMS)
- Order Entry
 - Medications
 - Laboratory
 - Radiology
- Enhanced Treatment Planning
 - Interface to COTS application
- Templates
 - Clinical notes
 - Biopsychosocial assessments
- Ability to record results of screening, assessment and standardized tests
 - VHA Mental Health Assistant



Incremental Development of IBH

- Port BH components into EHR
- Integrate Order Entry, TIU, etc. into BH components
- Biopsychosocial and notes templates
- Deploy Suicide Form – BH GUI (Patient Chart), RPMS and EHR
- Treatment planning module
- VHA Mental Health Assistant



Treatment Planning Module

- Standard feature of electronic BH records
- Functional requirements include:
 - Diagnosis or symptom driven protocols
 - Mental Health and Chemical Dependency
 - Adult, children and youth
 - Clinical decision support
 - Extensive date and review tracking with alerts
 - Outcome Measures
 - Customizable
- RFP is pending FY06 funding



VHA Mental Health Assistant

- Allows BH clinicians the ability to record, store, graph and trend results of:
 - Screening tools
 - Assessments
 - Standardized psychological tests (proprietary and non-proprietary)
- Outcome measures
- Clinical Decision Support
- Sharing agreement with VHA supports importing MHA

IBH in EHR





LAMER CHRISTOPHER CLAYTON

Primary Care Team Unassigned

CAD



No Alerts Found

No Reminders Found

Appointment/Visit	Date ▾	Status
Payne	12-Apr-2005 14...	
Payne	29-Mar-2005 1...	CANCELLED BY PATIENT
FARRELL FP-15	16-Mar-2005 1...	
Payne	01-Mar-2005 1...	
ULTRASOUND-2	25-Feb-2005 0...	CANCELLED BY PATIENT
PT student	22-Feb-2005 1...	CANCELLED BY CLINIC
CONTINUITY O...	22-Feb-2005 1...	AMBULATORY
HYDE-G SAME ...	22-Feb-2005 1...	
<PHYSICAL TH...	22-Feb-2005 0...	AMBULATORY
<PHYSICAL TH...	22-Feb-2005 0...	AMBULATORY
HYDE-G SAME ...	18-Feb-2005 1...	CANCELLED BY CLINIC
HYDE-G SAME ...	18-Feb-2005 1...	CANCELLED BY CLINIC
PT student	18-Feb-2005 1...	CANCELLED BY CLINIC
<PHYSICAL TH...	18-Feb-2005 1...	AMBULATORY

Crisis Alert ▲	Date
ADVANCE DIRECTIVE	25-Jan-2005 13:47
CRISIS NOTE	06-Jul-2004 11:12

Error Retrieving Problem List...

Agent	Reaction
ALLERGIC TO FLIES	WEIGHT GAIN
ASPIRIN	
BEE STINGS	HIVES/ANXIETY
EASY OPEN CAPS	EASY OPEN CAPS
EGGS	RASH
FLIES	
IODINE	ANAPHYLAXIS
METOCLOPRAMIDE	DROWSINESS
PEANUTS	HIVES
PHENYLEPHRINE/PRO...	muscle irritability
POLLEN EXTRACTS FRE...	CHILLS
POVIDONE IODINE	RASH
SILVER NITRATE	DERMATITIS CONTAC...

[illegible]



Why Release IBH in EHR?

- EHR is the medical record solution for Federal Indian Health sites
 - Goal is to have all IHS sites using EHR by end of FY 2008
 - EHR is also available for tribal facilities
 - EHR is presently used in 22 facilities, 7 of which are tribal
- EHR is already used for BH documentation at some sites (but not in the MH/SS Record)



Why Release IBH in EHR?

- EHR offers features required by BH providers
 - Computerized provider order entry
 - Template-based encounter forms with electronic signature
 - Role-based access to information
 - Access to RPMS/PCC data and medical notes
 - Improved information sharing and communication, i.e. notifications and consults

WARM SPRINGS HEALTH AND WELLNESS CENTER

PO Box 1209

1270 Kot-Num Road

Warm Springs, OR 97761

FEB 22, 2005

TEST, WOMAN

No Current Address Found

Dear Ms Woman

☒ We received the results of your recent * lab . The results were * normal .

☒ You recently had a blood test for cholesterol. Cholesterol is a type of fat made by your liver. It is also found in foods coming from animal sources like meat, eggs and dairy. Too much cholesterol in your system can raise your risk for having a heart attack or stroke.

Cholesterol occurs in the blood in different forms. The LDL form DELIVERS cholesterol to the body. The HDL form REMOVES cholesterol from the body. Too much LDL is bad for the body, while increased HDL is good. The balance of HDL and LDL tells us about your risk for heart disease.

The following are your results:

Total Cholesterol 180 A total cholesterol under 200 is best. 200-240 is borderline high. Over 240 means increased risk for heart disease.

LDL Cholesterol 124 LDL cholesterol under 130 is best. Between 130-160 is borderline high. Over 160 means increased risk for heart disease.

HDL Cholesterol 65 HDL cholesterol under 35 means increased risk for heart disease. Levels over 60 reduce your risk for heart disease.

Risk Ratio A ratio of more than 5 means increased risk for heart disease. A ratio less than 5 reduces your risk for heart disease.

Your current levels put you at an overall * decreased risk for heart disease.

☒ I recommend we recheck these labs in * 3 months . Please continue to follow a healthy diet and get regular ex

3 months
6 months
12 months
18 months

All

None

* Indicates a Required Field

Preview

OK

Cancel



What is IHS EHR?

- Server-side RPMS applications
 - adapted from VHA or developed by IHS
- Client-side Graphical User Interface
 - VueCentric framework with IHS-customized components
 - Principal users of the GUI – clinicians
 - Many others use the GUI for convenience and ease of access, but do not (yet) have GUI access to their applications (e.g. Registration, Lab, Radiology, Pharmacy)



Will EHR Meet All BH Needs?

- Unknown, but possibly not
 - At present, EHR is complex to install, set up, and maintain
 - Many smaller sites, especially without medical programs, may not choose this solution
 - A leaner, simplified version of EHR is being contemplated
 - In the meantime, BHS and the BH GUI remain capable solutions for BH programs

Doe, Jane

PHARMACY 21-Dec-2004 0

Restrictions/Guidelines

STATINS

Simvastatin 5mg QPM
 Simvastatin 10mg QPM
 Simvastatin 20mg QPM
 Simvastatin 40mg QPM
 Simvastatin 80mg QPM

Medication Order

SIMVASTATIN TAB

Display Restrictions/Guidel

Dosage Complex

40MG

5MG

10MG

20MG

40MG

80MG

Comments:

Days Supply Quantity

30

30

SIMVASTATIN TAB 40MG

TAKE ONE TABLET BY MOUTH

Quantity: 30 Refills: 11

SHAKI
 Quanti

LINEZ

TAKE ONE TABLET BY MOUTH DAILY

Quantity: 90 Refills: 0

*FERRIC NA GLUCONATE INJ, SOLN
 12.5MG/ML

INJECT 125MG INTRAVENOUSLY

WEEKLY

Quantity: 1 Refills: 4

BISMUTH SUBSALICYLATE

Management of Dyslipidemia

Primary target LDL Trig primary target if > 500

Secondary target Non-HDL (= Total Cholesterol - HDL)

High Risk = Symptomatic carotid heart disease, diabetes, PAD, AAA, CHD
 risk > 20%

LDL goal < 100 (possibly less than 80 in ACS)

Moderate Risk = 2 or more risk factors

10 year risk 10-20%

LDL goal < 130

Start drug Risk = 0-1 risk factor

LDL goal < 100

HDL levels -----

Statins

LDL decrease 20 to 55% (doubling the dose decreases 6%)

HDL increase 5 to 10% regardless of dose

TG decrease 15 to 30% at higher doses

Ezetimibe (Zetia)

LDL decrease 15 to 18%

HDL increases 3-3.5%

TG no change

Fibrates

LDL decrease 5 to 10% (fenofibrate more than gemfibrozil)

HDL increase 10-25%

TG decrease 20 to 35%

Niacin

LDL decrease 5 to 20%

HDL increase 10 to 25%

TG decrease 20 to 30%

Print

Close

Start: 09/13/04

Lamer, C

renewed



Advantages of the GUI Solutions

- Easy to use, easy to learn
- Legibility of notes
- Data entry at point of care improves data quality and access
- Patient safety and quality of care
- Improved ability to meet accreditation standards and performance measures
 - JCAHO, AAAHC, CARF
 - GPRA – CRS

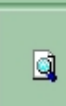
Test Woman

200010 10-Oct-1959 (45) F

RUDD EHR 20 CLINIC

16-Feb-2005

RUDD,STEPHEN M



Postings

A

File View Action Options

Last 100 Signed Notes

[-] All signed notes

- [-] Feb 16,05 DIABETES CONSULT REPORT, DM KOEPPING, MARGARET J KOEPP
- [-] Feb 16,05 DM EDUCATION, DM KOEPPING, MARGARET J KOEPPING
- [-] Feb 16,05 ENCOUNTER, RUDD EHR 20 CLINIC, STEPHEN M RUDD, MD
- [-] Feb 08,05 DM CASE MGT, CHART REVIEW, MARGARET J KOEPPING
- [-] Jan 10,05 NURSING BRIEF, WALKIN TRIAGE, SHARON A MILLER
- [+] [-] Dec 29,04 DM QUARTERLY, RUDD EHR 20 CLINIC, STEPHEN M RUDD, MD
- [+] [-] Dec 29,04 NURSING BRIEF, RUDD EHR 20 CLINIC, SHARON A MILLER
- [+] [-] Dec 01,04 DM QUARTERLY, RUDD EHR 20 CLINIC, STEPHEN M RUDD, MD
- [-] Nov 17,04 LIPID REVIEW, CHART REVIEW, SARA L THOMAS
- [-] Nov 17,04 NUTRITION, NUTRITION-THOMAS, SARA L THOMAS
- [-] Nov 17,04 ENCOUNTER, RUDD EHR 20 CLINIC, STEPHEN M RUDD, MD
- [-] Nov 17,04 NURSING BRIEF, RUDD EHR 20 CLINIC, SHARON A MILLER
- [+] [-] Nov 16,04 DM CASE MGT, CHART REVIEW, MARGARET J KOEPPING
- [-] Nov 08,04 ERYTHROPOIETIN, ALT KOEPPING, MARGARET J KOEPPING

Visit: 12/01/04 DM QUARTERLY, RUDD EHR 20 CLINIC, STEPHEN M RUDD, MD (Dec 01,04@08:33)

nasal congestion. The mouth shows moist mucous membranes. Good dentition. The oropharynx is cobblestoning.

Neck: Supple. Non-tender. There is no lymphadenopathy, JVD or bruits.

Lungs: Clear to auscultation bilaterally.

Cardiovascular: Regular rate and rhythm without murmurs or rubs.

Abdomen: Soft. Non-tender. Bowel sounds are positive. There is no hepatosplenomegaly.

Back: Straight. There is no CVA tenderness.

Extremities: Full range of motion. No joint tenderness. Pulses 2+. There is no cyanosis or edema.

Neurological: DTR 2+ bilaterally. There are no focal neurological deficits.

Skin: Warm and dry. No rashes.

Psychiatric: Alert and oriented x 3. Normal mood and affect.

LABS/RADIOLOGY:

Test Name	Result	Units	Range
HB A1C	10.4	H	4-6

ASSESSMENT:

- 1) TYPE 2 DIABETES [P]
- 2) HYPERTENSION
- 3) HYPERLIPIDEMIA
- 4) DIABETIC NEPHROPATHY
- 5) OBESITY

PLAN: We are going continue current medications. Will add sulfonylurea to her regimen.

PATIENT EDUCATION:

Diagnoses: TYPE 2 DIABETES (Primary), HYPERTENSION, HYPERLIPIDEMIA, DIABETIC NEPHROPATHY, OBESITY, ASTHMA-MILD,INTERMITTENT

Procedures: ,

Suicide Reporting in RPMS

Agency Initiative
GPRA Clinical Performance Measure





Suicide in Indian Country

- Suicide rates for AI/AN range from 1.5 to over 3 times the national average for other groups*
- AI/AN youth aged 15-24 have highest rate, all populations (CDC)
- 5th leading cause of death overall for males*
- Young people aged 15-34 make up 64 percent of all suicides*
- While suicide rates for all other racial groups declined from 1990 through 1998, they continued to increase for Native Americans.

* *Trends in Indian Health, 2000-2001*



IHS Director's Performance Contract

- Develop national suicide surveillance system by the end of FY04 and deploy by the end of FY05.
 - Part of a larger DHHS and Agency Initiative on Suicide Prevention
 - IHS National Suicide Prevention Committee
 - Goal 11: Improve and expand surveillance systems



GPRA Suicide Clinical Indicator

- The purpose of the GPRA suicide clinical indicator is to support suicide prevention by collecting comprehensive data on the incidence of suicidal behavior.
 - 2005 – Integrate the RPMS Behavioral Health suicide surveillance tool into RPMS
 - 2006 – Establish baseline data on suicide using the RPMS suicide reporting tool



Suicide Reporting in RPMS

- Suicide Reporting Form (SRF) released in RPMS BHS v3.0 and BH GUI January 04
 - Accessible by BH providers only
- SRF to be released in RPMS PCC and EHR by end of FY05
 - Accessible by Primary Care, ED and other providers
- Baseline suicide data FY06



Suicide Reporting in RPMS

- Data Entry Option – a “SF” (suicide form) mnemonic will be created to support data entry from paper forms
- Provider Entry Option – this is a “stand-alone” option that can be put on a provider’s menu
- Released as part of the Data Entry package
- The SF menu option is controlled by a key; only providers will be given the SF menu option
- All completed suicide forms reside in the MH/SS Record Suicide Form .01 field
- Completed suicide forms are not attached to a Visit
- Data is sent to the National Programs database via BH export
- Reports in PCC will be modeled on the existing BHS reports



Using the Suicide Reporting Form

- When is it used?
 - Patient reports suicide ideation with intent and plan; patient presents at ED after an attempt; provider informed of completed suicide
- What data does it collect?
 - Standard epidemiological and demographic data
 - Method, location, previous attempts, contributing factors, etc.
- How is the form completed?
 - Paper-based
 - Suicide Reporting form completed by provider then given to Data Entry (PCC or PCC+)
 - Direct Provider Entry
 - BHS v3.0 or BH GUI
 - EHR

Adams, Claire Kimimi

8581

29-May-1964 (41)

Visit not selected

DOCTOR, TEST

Primary Care Team Unassigned

No Postings



Behavioral Health Suicide Incident Entry Form

Adams, Claire Kimimi

Sex: Female

DOB: 5/29/1964

Age: 41

SSN: 517-44-0796

GENERAL INFORMATION:

Local Case Number:

1

Provider:

ACTON, ERIC

Date of Act

6/24/2005

Community Where Act Occurred:

CROW AGENCY

RELATIONSHIP/EMPLOYMENT/EDUCATION INFORMATION:

Relationship Status:

MARRIED

Education Level:

COLLEGE GRADUATE

Employment Status:

UNEMPLOYED

ACT INFORMATION:

Self Destructive Act:

COMPLETED SUICIDE

Location of Act

HOME OR VICINITY

Previous Attempts:

2

Lethality:

HIGH

Disposition: OUTREACH TO FAMILY/SCHOOL/COMMUNITY

Method | Substance Use | Contributing Factor(s) | Narrative

☐ Gunshot☒ Hanging☐ Motor Vehicle☐ Jumping☐ Stabbing/Laceration☐ Carbon Monoxide☒ Overdose☐ Unknown☐ Other:

Overdosed Using

Substance Name

ALCOHOL

NON-PRESCRIBED OPIA...

Add

Edit

Delete

Clear

Save


Close


Integrated Behavioral Health - Home Page - Microsoft Internet Explorer

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Back Forward Stop Home Search Favorites Media Print Mail News RSS Feeds

Address <http://www.ihs.gov/cio/bh/> Go Links >>

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Indian Health Service
The Federal Health Program for American Indians and Alaska Natives

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Clinical Applications Web Site

Questions or Comments: Please

Welcome to the Integrated Behavioral Health (IBH) Application home page. This site will serve as a central repository for the most current information about the requirements, design, and development of IBH applications. Workgroup members can visit the Links & Docs page for all documentation related to the IBH Application.

The Behavioral Health MIS (Management of Information Systems) workgroup has proposed short and longterm solutions to meet the technical needs of the Behavioral Health community. The Workgroup wants to use technology to improve the collection, quality, and reporting of the behavioral health data and use the data to improve the care and funding patients and communities receive.

www.ihs.gov/cio/bh

On this site we invite you to explore the following:

- Released... June 27, 2005 Release Announcement
- BH GUI
- BHS v3.0
- Suicide Surveillance in RPMS
- Suicide Surveillance Tool

Integrated Behavioral Health - Home Page

Done Internet